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## MATERIAL SAFETY DATA SHEET

Kennecott Utah Copper Corporation

## PRODUCT INFORMATION

BARNEYS CANYON FLUX

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SYNONYM: Barneys Canyon Flux	PRODUCT CODE: Not Applicable	HIERARCHY: Not Applicable
CHEMICAL FAMILY: Metal Sulfide and Silicate Minerals	FORMULA: Not Applicable	MOLECULAR WEIGHT: Not Applicable
MANUFACTURER: Barneys Canyon Mining Company P.O. Box 311 Bingham Canyon, UT 84066 (801) 252-3000	REVISION DATE:  N.A. (New MSDS)	SHEET DATE PREPARED:  December 1, 2002
<b>FOR ANY CHEMICAL EMERGENCY CONTACT CHEMTREC (800) 424-9300</b>		

## INGREDIENTS / HEALTH HAZARD INFORMATION

COMPONENT	C.A.S. #	%	EXPOSURE LIMITS
Silica (quartz)	14808-60-7	Approx 78%	0.1 mg/M <sup>3</sup> OSHA/MSHA PEL for respirable quartz.
Alumina Silicates	N.A.	Approx. 10%	5.0 mg/M <sup>3</sup> OSHA PEL for respirable dust.
Metal Sulfides	N.A.	Approx. 6%	5.0 mg/M <sup>3</sup> OSHA PEL for respirable dust.
Other Minerals	N.A.	Approx. 5%	5.0 mg/M <sup>3</sup> OSHA PEL for respirable dust.
Arsenic and Compounds, as As	7440-38-2	Approx. 0.9%	0.010 mg/M <sup>3</sup> OSHA PEL
Remaining components not determined hazardous and/or hazardous components present at less than 1.0% (0.1% for carcinogens). Note: IARC has determined that respirable crystalline quartz is a Group I human carcinogen. OSHA classes inorganic arsenic as a human carcinogen.			

## PRODUCT HEALTH HAZARD INFORMATION

INGESTION:	Not a normal route of exposure. If powdered material is ingested, symptoms may include metallic taste, thirst, and abdominal pain.
SKIN:	Abrasive action may cause reddening, itching and inflammation. May cause allergic reactions in some individuals.
EYE:	Contact with powdered material may cause irritation. Abrasive action may cause damage to the outer surface of the eye.
INHALATION:	Exposure to dust may cause respiratory tract irritation. Prolonged exposure to elevated levels of airborne dust may cause silicosis.
SPECIAL TOXIC EFFECTS:	None known.

## FIRST AID

INGESTION:	Not a normal route of exposure. If large amounts have been swallowed, give 1-3 glasses of water or milk and induce vomiting. Do not make an unconscious person vomit. Keep affected person warm and at rest. Get immediate medical attention.
SKIN CONTACT:	Wash area of contact thoroughly with soap and water. Get immediate medical attention if irritation persists.
EYE CONTACT:	Flush immediately with large amounts of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.
INHALATION:	Remove affected person from source of dust exposure. If breathing is difficult, give oxygen. Get immediate medical attention.

## PERSONAL PROTECTION INFORMATION

EYE PROTECTION: When generating particles or dusts, wear safety glasses or chemical goggles to prevent eye contact. Do not wear contact lenses. Have eye baths readily available where eye contact can occur.	SKIN PROTECTION: Wear adequate gloves and protective clothing to prevent skin contact.	RESPIRATORY PROTECTION: Use NIOSH approved respirator when airborne exposure limits are exceeded. NIOSH approved breathing equipment may be required for non-routine and emergency use. Ventilation may be used to control or reduce airborne concentrations.
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## REACTIVITY DATA

STABILITY/INCOMPATIBILITY: Stable under normal conditions of use.	HAZARDOUS REACTIONS/DECOMPOSITIONS: - Not Established
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## PHYSICAL PROPERTIES

BOILING POINT: Not Determined	SPECIFIC GRAVITY: Not Determined	% VOLATILE: Not Applicable	EVAPORATION RATE (BUTYL ACETATE = 1): Not Applicable
VAPOR PRESSURE: Not Applicable	MELTING POINT: Not Determined	VISCOSITY, SUS: Not Applicable	VAPOR DENSITY (AIR = 1): Not Applicable
% SOLUBILITY IN WATER: Insoluble	POUR POINT: Not Applicable	pH: Not Applicable	APPEARANCE / ODOR: Dark colored material with slight coal odor

**FIRE AND EXPLOSION DATA**

FLAMMABILITY LIMITS IN AIR (% BY VOL): Lower: No Data                      Upper: No Data	AUTOIGNITION TEMPERATURE: Not Applicable	FLASH POINT: Not Applicable
UNUSUAL FIRE AND EXPLOSION HAZARDS: This material does not give a flash point by conventional test methods.	BASIC FIRE FIGHTING PROCEDURES: Use extinguishing agent for type of surrounding fire. Fire fighters should wear NIOSH approved SCBA with full-face mask and full protective equipment.	

**ENVIRONMENTAL INFORMATION**

SPILL OR RELEASE TO THE ENVIRONMENT: No special procedures are required for cleanup of spills or leaks of this material. Avoid methods that result in airborne dispersal or water pollution. Caution should be exercised regarding personnel safety. Notify the National Response Center and/or state and local agencies if required.		
NOTIFICATION: The reportable quantity (RQ) for the arsenic compounds (arsenic sulfides realgar and orpiment) present in this product is 1 lb. A spill or release of 68 lb or more of this product may contain an RQ of arsenic sulfides, and thus would require notification to the National Response Center and/or state and local agencies.		
WASTE DISPOSAL: This substance, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations. It could be designated as hazardous according to state regulations. This substance could also become a hazardous waste if it is mixed with or comes in contact with a hazardous waste. If such contact or mixing may have occurred, check 40 CFR 261, 262, 263 and 264 to determine what if any, hazardous waste regulations apply. The transportation, storage, treatment, and disposal of hazardous waste materials must be conducted in compliance with all applicable federal, state and local regulations.		
ADDITIONAL ENVIRONMENTAL REGULATORY INFORMATION: Specific local, regional or state regulations must be complied with.		
EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT (EPCRA) SECTION 313 SUPPLIER NOTIFICATION: This product, "Barneys Canyon Flux", contains the following chemicals subject to the reporting requirements of Section 313 of EPCRA:		
<u>CAS #</u> 7440-38-2	<u>Chemical Name</u> Arsenic & Compounds	<u>Percent By Weight</u> 0.9 (as arsenic)

**SPECIAL PRECAUTIONS/SUPPLEMENTARY INFORMATION**

HANDLING/STORAGE: Avoid inhalation of dust from the material during processing.
MARITIME TRANSPORT: The bulk maritime shipment of Barneys Canyon Flux should comply with all Coast Guard/DOT rules under 46 CFR 148.01 including the International Maritime Organization (IMO) Code of Safe Practice for Solid Bulk Cargoes. The cargo moisture content must be less than the Transportable Moisture Limitation.

**TRANSPORTATION REQUIREMENTS**

D.O.T. HAZARD CLASS (49 CFR 172.101): 9	D.O.T. PROPER SHIPPING NAME (49 CFR 172.101): Environmentally hazardous substance, solid, n.o.s.	D.O.T. PLACARDS REQUIRED: Miscellaneous
D.O.T. LABELS REQUIRED (49 CFR 172.101): Miscellaneous	BILL OF LADING DESCRIPTION: Environmentally hazardous substance, solid, n.o.s., 9, UN3077, PG III (contains arsenic) RQ (arsenic sulfides)	UN / NA CODE: UN3077

The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. No warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice a patented invention without a license. In addition, no responsibility can be assumed by manufacturer for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.